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PROBLEMS OF THE MINING INDUSTRY

The quotas for the first 2 years of the Stalin postwar Five-Year Plan have been successfully completed by the ferrous and nonferrous mining industries. The patriotic appeal by the Leningrad workers to complete the Five-Year Plan in 4 years places before the workers of the mining industry the great task of attaining in 1949 the level of production set for 1950.

The basic problems confronting the mining industry are the increase in labor productivity and the reduction of time needed to bring new mines, pits, and dressing plants into operation.

It is perfectly obvious that the increased mobilization of equipment can and must go side by side with the increased productivity of labor; consequently, even with the same equipment and machinery the extraction of minerals will increase.

Increased output of mining workers can be attained by furthering the development of the Stakhanovite movement, by better organization of labor and better placement of workers, by raising their qualifications, by better labor protection and accident prevention measures, by application of more effective methods of mine exploitation, by the use of multiple-face and multiple-perforated drilling, and by speedy methods of mine sinking.

Familiarization with new, progressive methods of utilization of equipment and machinery, introduction of new machinery, increase of air pressure in mines to 6 or 7 atmospheres, and other technical improvements will also assist in increasing the productivity of labor.

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Greater utilization of equipment and machinery can be achieved through better organization of mine operations, through timely and effective carrying out of minor, medium, and capital repairs, through reducing the number of breakdowns and accidents, and through competent servicing of equipment.

In order to insure increased ore extraction in 1948, a number of technical improvements of a general nature, as well as improvements pertaining to individual mines and deposits, must be carried out. The first to be considered among the general technical improvements is the introduction of more effective methods of exploitation.

The method of block caving by its high economic effectiveness surpasses open-pit mining. The use of the former in the current Five-Year Plan is projected in the Krivoy Rog basin and at the Tekeli mine of the Main Administration of Zinc and Lead.

The use of the method of floor caving with forced breakdown is also projected. Distinct from block caving, which requires special conditions for the crumbling of the ore bodies, the caving of the entire floor of a block is brought about through the use of explosives. This factor makes possible the wide use of this efficient system of exploitation, the adoption of which would sharply increase ore extraction, especially in the Krivoy Rog basin.

The method of storing ore, which makes for uniform extraction, will be adopted by the Ore Mine Administrations imeni K. Libknecht, imeni Komintern, imeni Frunze, imeni Rose Luxemburg (Krivbassruda), the Zlatoust (Uralruda Trust), and Kalangyevsk (Soyuzplavik Trust) Mine Administrations, as well as by the Nittis-Kumuzh'e mine of the Severonickel combine and at many other mines.

At the Lenin, Stalin, and Ordzhonikidze Mines of the Chiatura-Manganese Trust, an expansion of the existing, highly productive room-and-pillar method is projected.

The use of the Chinokal shield in working the precipitous deposits of Krivoy Rog, the Zhuravlev-Pokrovsky-type deposits and the sloping deposits of Nikopol' manganese ore, should result in a considerable increase in labor productivity and in lumber savings.

Overall mechanization in mining will greatly speed up the process of pit sinking and will build up adequate reserves of ore for movement from ore mines. Among the processes of total mechanization, particular attention should be given to the mechanization of loading in mines by increasing the number of type PM-4 loading machines produced at the "Kommunist" Plant. Each loading machine will replace 4 or 5 loaders and will make possible greater production. Scraper loading, which successfully replaces manual labor, should also receive wider application.

In order to increase air pressure and maintain constant pressure in the mine's air conduit, the use of hydropneumatic compressors in the Krivoy Rog and Ural mines and in other areas is contemplated. It is estimated that this measure will increase the efficiency of drilling by 30-35 percent.

In blasting operations it is common to use ammonite No 2, which is not satisfactory, especially in blasting hard deposits. More powerful explosives, such as dynamite, dinaphthyl, and others, are needed. Mass production of these is planned for the mining industry in 1948.

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In open-pit mining, improved electric excavators with buckets having a 3 or 4-cubic meter content should be used. Such excavators are produced at the Ural Machinery Plant. Wider use of bulldozers in surface operations will increase the productivity of the excavators by releasing the latter from auxiliary operations.

Bulldozers are manufactured at the Kalyushchenko Plant in Chelyabinsk and at the plant of the Ministry of Nonferrous Metallurgy in Leningrad. Production is being organized at the Magnitogorsk Mining Equipment Works of the Main Administration of Mining.

Utilization of terracing plows in surface operations will release a considerable number of workers now occupied in terracing, since one terracing plow will replace 50 men. These plows are manufactured at the Magnitogorsk plant in sufficient quantities to provide for the needs of surface mining operations during 1948-49.

Travelling-crane machinery can release from 30 to 40 workers; this machinery is also manufactured at Magnitogorsk plant.

The use of motor transport in surface operations has established itself in Soviet mining as well as abroad. During 1948-49, the introduction of this type of transport is projected at the Dashkesansky, Goroblagodatsky, Donskoy, Kimpersayskiy, Tayketkensky, Sheleinsky, Anatol'sky, Pervomayskiy, and a number of other mines. Use of motor transport considerably lessens the volume of stripping operations.

To reduce the cost of transport in surface operations, as well as to increase its efficiency, rail transport inside the mines will be electrified in several enterprises in the Urals (Vysokogorsky, Bakal'sky, Goroblagodatsky). Utilization of powerful electric locomotives (90-110 tons) will permit sharp increase in the weight of the complete train and will raise the coefficient of the efficiency of the excavators.

Under certain geological conditions, it is economically profitable to conduct stripping and even extracting operations by the hydraulic method.

The hydraulic method is projected for stripping operations in Krivoy Rog, in the Lipetsky area, in the Nikopol' Manganese basin, and in the Bogoslovsky mine.

In order to complete the postwar Five-Year Plan in the mines of the Ministry of Ferrous Metallurgy in 4 years, it is planned:

1. To increase sharply in 1948 the extraction of iron and manganese ores through new and more efficient methods.

2. To increase the output of surface operations in the Krivoy Rog area and bring it up to 500,000 tons in 1949.

3. To use improved machinery in underground operations with the following goal in the number of machines: drills--4000, drill carriages--60, powerful scraper hoists--200, loading machines--200, drilling machines for underground drilling--150.

4. To introduce speedy methods of developing mines, for which it will be necessary to secure 20 speedy sinkings in 1948 and 50 in 1949.

5. To replace 75% of the usual explosives with more effective explosives (dynamite, dinaphthyl, and others) in underground operations.

6. To acquire during 1948-49 the following new equipment for surface operations: 74 excavators with bucket of 3 or 4-cubic meter content, 32 bulldozers, 30 dump trucks of 15-30 ton load capacity, 300 dumping cars of 60-ton load capacity, 53 powerful electric locomotives with pulling capacity of 90-110 tons, 46 powerful locomotives, and 8 travelling cranes.

7. To increase ore extraction at the basic enterprises in the Urals through exploitation of the following mines: "Magnetitovaya" of the Visokogorsky Mine Administration; "Eksplotatsionnaya" of the Lebyazhinsky Mine Administration; "Yuzhnaya" of the Goroblagodatsky Mine Administration; "Pervomayskay" of the Bogoslovsky Mine Administration; and "Tsentral'naya" of the Zlatoustovsky Mine Administration.

8. To put into operation new dressing plants at the Mines imeni Kirov and Zheltaya Keva of the Krivbass Trust at the Mine imeni Voroshilov of the Nikopol'-Marganets Trust, at the Chiatura Marganets Trust, and at the Goroblagodatsky, Zlatoystovsky, and Pervoural'sky Mines.

9. To construct and put into operation in 1949 a large ore-testing station in the Krivoy Rog basin for the study of concentration of ores and quartzite in Krivoy Rog and the Kursk Magnetic Anomaly.

10. To improve the level of mining-machinery construction by increasing the machinery output of existing plants and by putting into operation in 1949 in Sverdlovsk, a plant for ore-dressing equipment in order to provide the mining industry with electromagnetic separators.

The plan of technical improvement proposed for 1948 in nonferrous mines also applies to the ferrous mining field.

By constant improvements in the technique of mining and by using every possible effective method for improving the work and raising the efficiency, the miners in the ferrous and nonferrous mining enterprises will fulfill the 1948 production goal and attain in 1949, the production level set for the last year of the new Stalin Five-Year Plan.

The decree of the Council of Ministers of the USSR of 10 December 1947, regarding the privileges of workers, administrators, and technical-engineering personnel of the mining industry will be of great help in the realization of this undertaking.

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